



Infrastructure Automation for Federal Facilities.

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UAI

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Company Background



UAI is headquartered in Huntsville, Alabama's historic Cummings Research Park, the heart of north Alabama's high tech community, and has nine regional offices throughout the United States and the Caribbean.

An authorized ESRI® Business Partner since 1994, UAI is currently working with more than 100 clients providing UtilityCenter™ - The world's first fully integrated, working, digital utility system.

UAI's professional staff of more than 120 engineers, programmers and GIS/GPS experts is dedicated to providing solutions that exceed customer expectations.



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Target Markets

UAI was founded with a vision of putting computers in the hands of the **electric** utility workforce and expanding later to **water, wastewater, and natural gas utilities**.

UAI's has also developed solutions tailored for local, state and federal governmental agencies including **police, fire and emergency medical First Responders, emergency management officials, FEMA, HUD, DOD, DOE, and USDA.**

The UAI concept is to use computers instead of paper to do daily work, resulting in improved efficiency, faster emergency response and lower operating costs. UAI's objective is to carry this powerful, simple-to-use integrated information technology to the globe.

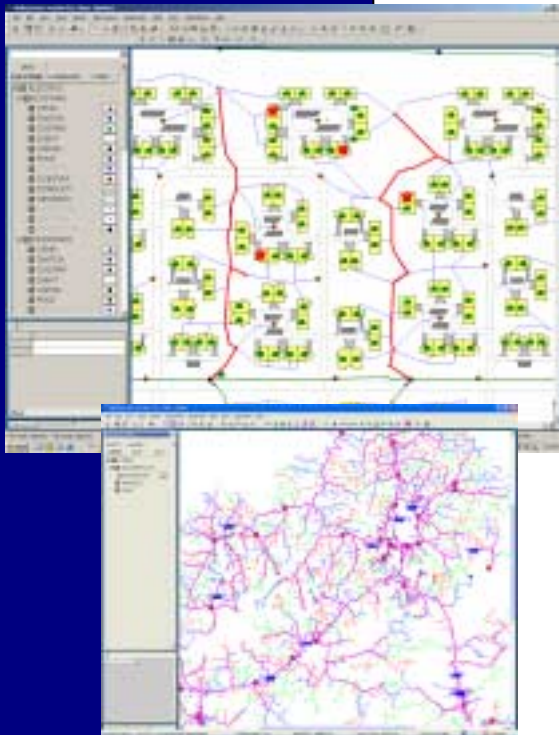
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Technology overview



UtilityCenterTM 2.0 technology provides the most comprehensive GIS solution in the industry. The system architecture is unique because it combines the cartographic capabilities of traditional computer mapping systems with a strong analysis system built around a relational DBMS.

Components:

- ▶ uaDispatchTM Outage Management System
- ▶ uaFieldTM Electronic Staking and Field Engineering
- ▶ uaFMTM Facilities Management
- ▶ uaViewTM Electronic Map View, Query and Sketch
- ▶ Interface Portals
- ▶ uaNetTM Web-enabling modules



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Technology overview



uaFM™ - Facilities Management

uaFM™ enhances ESRI's ArcInfo™ 8.x to deliver an end-to-end solution for facility mapping, asset and resource management, facility planning and maintenance. With open architecture, predefined utility rulebases for electric, gas, & water/wastewater, facility management, and standard relational databases, uaFM™ provides high-end GIS functionality.

Features:

- ▶ Extension of ESRI ArcInfo 8.1
- ▶ Plot and print hard copy maps
- ▶ Perform global system edits
- ▶ Import and convert CAD drawings
- ▶ High-Level GIS functionality

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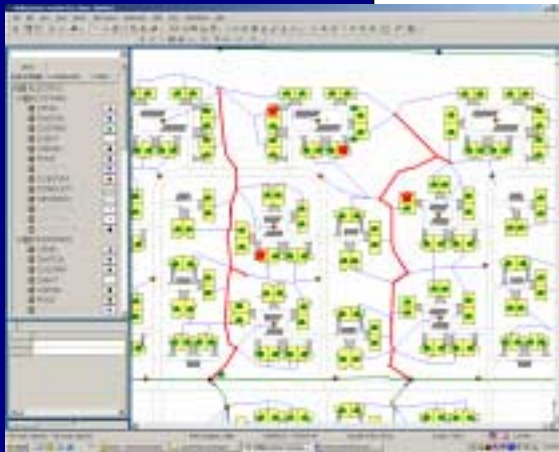
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Technology overview



uaDispatch™ - Outage Analysis & Management

UAI's uaDispatch™ outage management module enables utilities to automate trouble call, outage management, and dispatch response. The system provides interface portals to IVR, SCADA, CIS, and engineering analysis applications to respond to customer demands and reduce outage time.

Features:

- ▶ Visualize ALL outages on-screen
- ▶ Automatic prediction of fault location
- ▶ Monitor crew location & outage status
- ▶ Access historical outage data
- ▶ Generate automatic callbacks

Technology overview



uaField™ - Field Engineering & Work Management

uaField™, UAI's integrated field engineering and work order management module, links work order creation, workforce management, material management, and the engineering design process in a single, field-portable system. Single-point data entry eliminates costly duplication of work while pushing work order information to all users.

Features:

- ▶ COMPLETE GIS field portable
- ▶ Stake work orders in field or office
- ▶ Eliminate redundant data entry
- ▶ Information shared across departments
- ▶ Generate material lists and cost estimates



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Technology overview



Interface Portals

UAI's Interface Portals integrate existing and future third-party systems seamlessly, ensuring full compatibility with the overall solution.

Interfaces:

- ▶ Interface to IVR/Automated Phone System
- ▶ Interface to Customer Information System
- ▶ Interface to Engineering Planning Package
- ▶ Interface to Work Management System
- ▶ Interface to SCADA System
- ▶ Global Positioning System Interface
- ▶ Mobile Crew Management System Interface
- ▶ Interface to AVL and AMR Systems

Technology overview

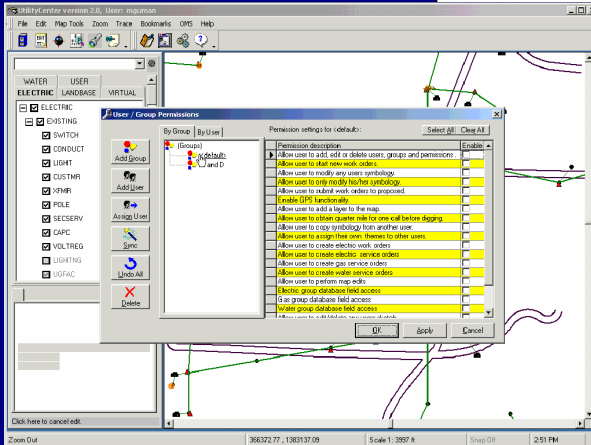


uaNet™ Web-enabling Modules

UAI's Web-enabling modules expand the functionality of applications by allowing users to log on via Web-browser and gain access to customer and facility information, historical reports, and other information.

Modules:

- ▶ e-View™ - Web-enabled Map View and Query
- ▶ e-WorkOrder™ - Web-enabled Job Order Tracking
- ▶ e-CallCenter™ - Web-enabled Trouble Call Answering
- ▶ e-Dispatch™ - Web-enabled Dispatching
- ▶ e-Reports™ - Web-enabled Report Generating Tool



uaSecurityManager™

uaSecurityManager™ allows network/IT administrators to control security throughout the system so employees can view, query and access the information they need for specific job duties while being limited from accessing secure areas.

Network/IT administrators can use SecurityManager™ to group users and assign specific permissions to those groups, or individual users. Settings are controlled through a user-friendly point-and-click interface.

With SecurityManager™, sharing information across departmental lines is possible without jeopardizing the integrity or security of sensitive data.



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Doe Demonstration Project

Project Background

In 2002, UAI responded to RFP No. 412340 issued by the Department of Energy for a project demonstrating the benefits of implementation of a GIS-based Outage Management System for electric utilities.

Funding for this project was included in the 2002 Energy and Water Bill.

In response to the RFP, UAI agreed to implement its uaDispatch™ 2.0 Outage Management System at eight sites throughout the country.



Doe Demonstration Project

Phase I: Initial Evaluation

UAI evaluated potential sites for project suitability and worked with DOE to make final site selections.

Sites approved for selection met a series of criteria including:

- Presence of an onsite utility system
- Sufficient resources to maintain GIS in future
- Dedicated dispatch center and monitoring personnel
- Federal sites range from 365 to 4785 buildings



Doe Demonstration Project

Phase II: Data Conversion & Map Development

Once selected, UAI staff began a comprehensive evaluation process including:

- Current maps (paper and/or electronic)
- Database content
- Rulebase structure
- Quality specifications



Doe Demonstration Project

Phase III: System Implementation

Following verification, cleaning and final delivery of site maps, the project calls for installation of uaDispatch™ OMS including:

- Interface to third-party systems for enhanced OMS capabilities
- Additional Web-enhancing modules to demonstrate OMS capabilities of the Web
- Input from select site personnel for future revisions to solution.





Doe Demonstration Project

Implementation Status (10-03)

Air Force Academy (CO)	INSTALLED
Redstone Arsenal (AL)	4Q 2003
Hurlburt Field (FL)	4Q 2003
Groton Utilities (CT)	INSTALLED
Langley Research Center (VA)	IN PROGRESS
Tinker Air Force Base (OK)	INSTALLED
Decatur Utilities (AL)	INSTALLED
Stennis Air Force Base (MS)	INSTALLED



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Doe Demonstration Project

Phase IV: Evaluation

UAI will develop an evaluation plan during the project and submit a final report to the Pacific Northwest National Laboratory (PNNL) to summarize potential benefits of the tools in reducing operations and maintenance expenses at federal facilities.

This evaluation will be conducted in cooperation with PNNL and the Department of Energy.

Timeframe for issuance of report: 1Q 2004





USAFA Project Overview

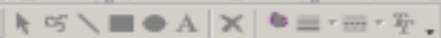
U.S. Air Force Academy

The U.S. Air Force Academy was selected as one of the eight demonstration sites based on the selection criteria established by UAI and DOE.

Facilities records maintained by USAFA in CAD files were converted by UAI into a seamless electronic map of the Academy's 18,000-acre complex.

Data includes:

- Electrical facilities
- Substations (2)
- Buildings (>1,100)



OMS
ELECTRIC LANDBASE USER

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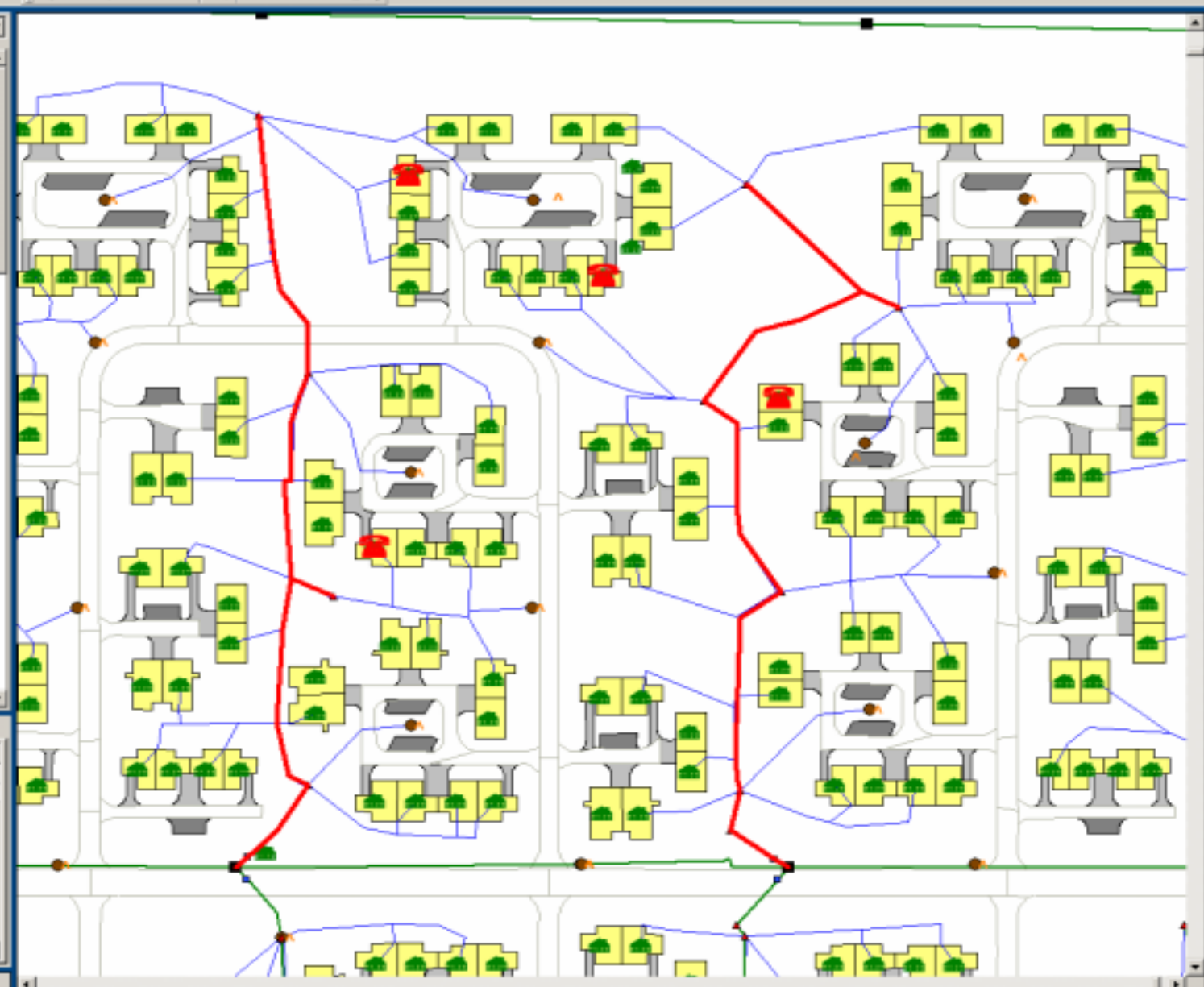
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USAFA Project Overview

U.S. Air Force Academy

Following conversion of USAFA's CAD files, servers and workstations were installed with UAI's UtilityCenter® Outage Management System – uaDispatch™.

USAFA and other sites also received one license of UAI's UtilityCenter® electronic staking module – uaField™ - for future system updates.



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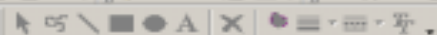


USAFA Project Overview

U.S. Air Force Academy

Using uaDispatch™, USAFA personnel will have the ability to utilize the electronic map system in a variety of ways, including:

- View and Query facility locations and attribute info
- Identify affected equipment
- Perform "what if" switching scenarios
- View affected outage area

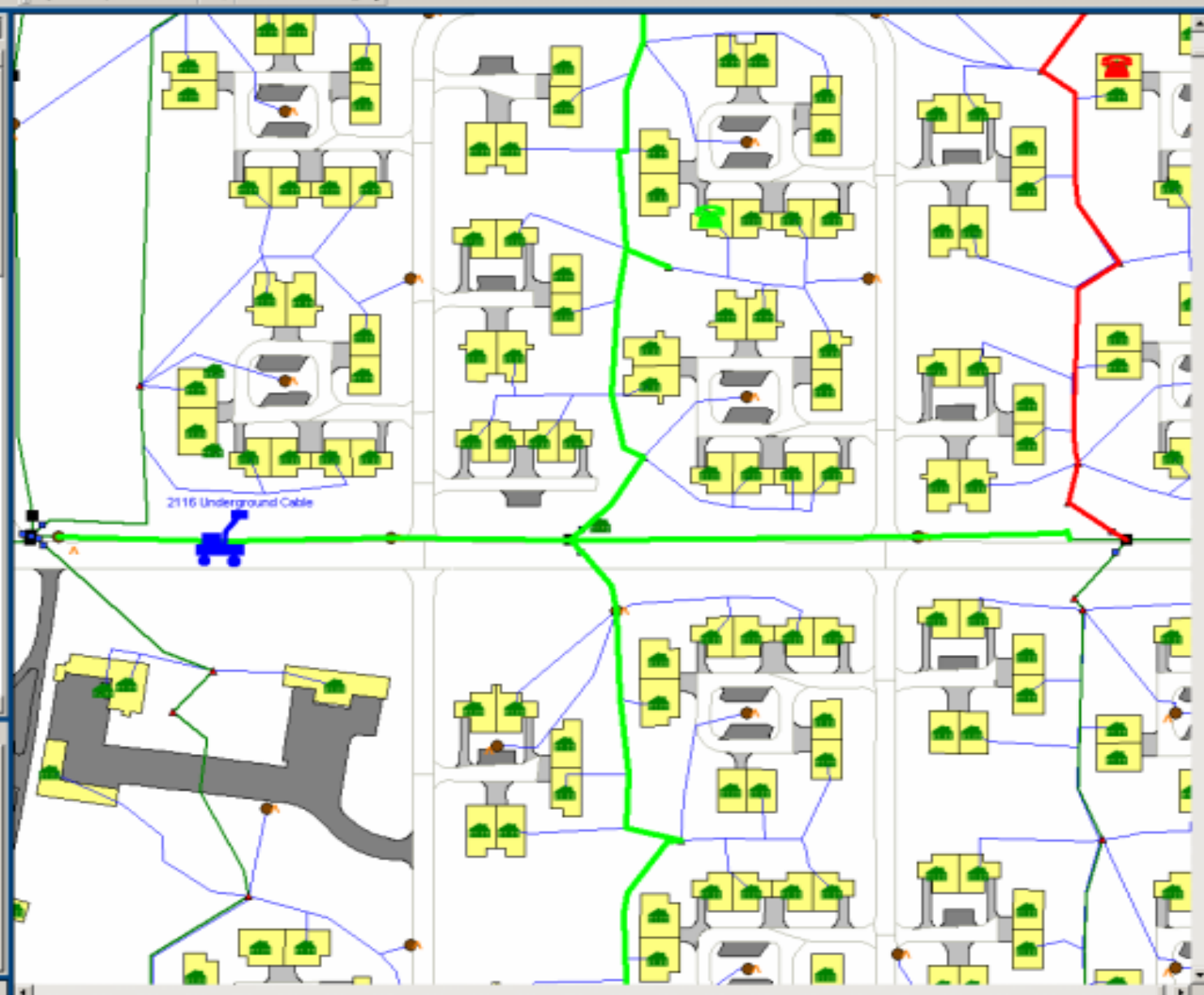


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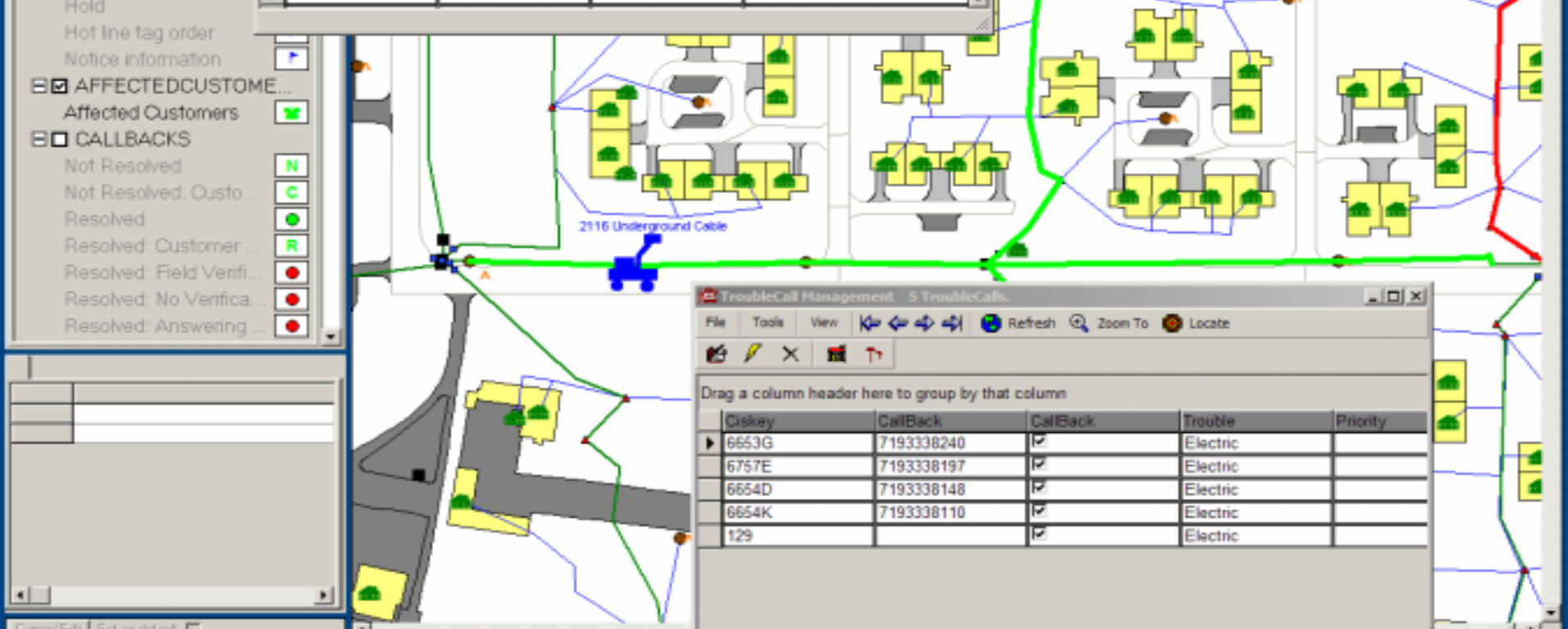
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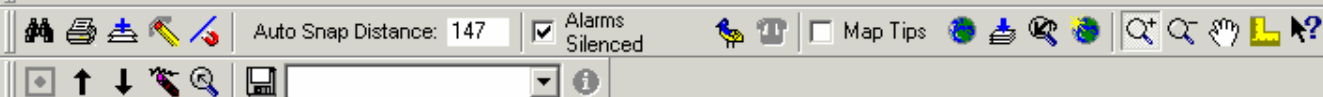


Other uaDispatch™ functionality

Enhanced Outage Analysis and Management

uaDispatch™ provides other tools for more effective analysis and management of outage restoration efforts. Depending on specific needs and desires, participating sites can:

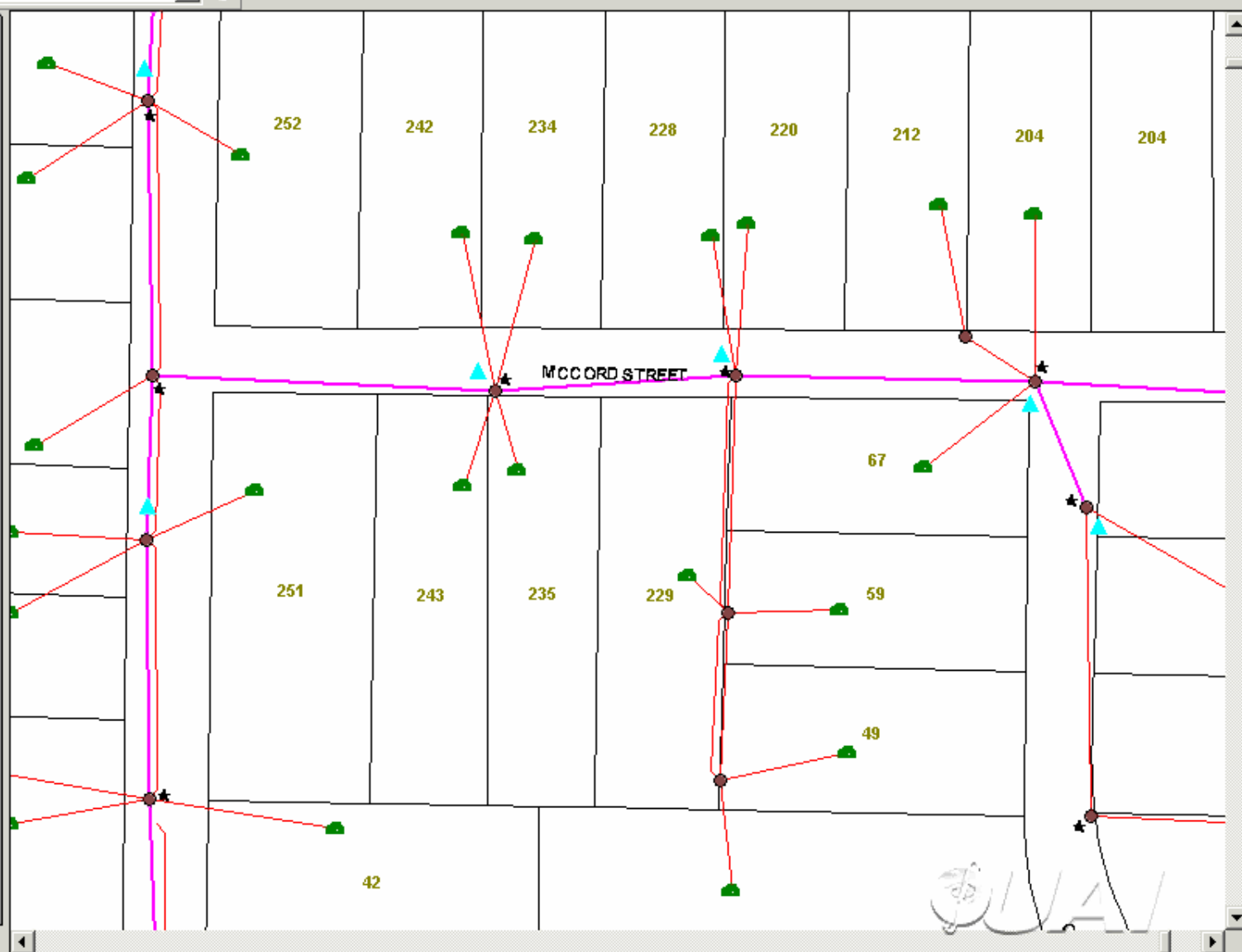
- Input trouble calls manually or through IVR interface
- View all trouble calls and affected area onscreen
- View graphic location and list of affected locations
- Predict failed equipment to speed restoration effort
- View location and status of responding personnel
- More effectively management responding resources



TroubleSys LANDBASE

ELECTRIC PROPOSED

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- ☒ CUSTMR
- ☒ XFMR
- ☒ SWITCH
- ☒ LIGHT
- ☒ POLE
- ☒ SECSERV
- ☒ CONDUCT
- ☒ VOLTREG
- ☐ CAPC
- ☐ PRIMETER
- ☒ UGFAC
- ☐ GUY
- ☒ PROTECTOR
- ☒ GUYLINE



Benefits



Enhanced productivity through automation

UAI is confident that this project will fully demonstrate the benefits to be realized through automation of the outage management process at federal sites throughout the country.

- Faster response to outage situations
- More efficient use of manpower
- Improved quality of service to vital facilities
- More accurate mapping of physical facilities
- Improved maintenance of facilities information
- Cost savings from more efficient operations



Lessons Learned

Seamless System Integration is the key

All sites will be fully evaluated 1Q/2004 and a complete report issued to DOE detailing the results of that evaluation.

Important lessons have already been learned from the implementation and installation process.

- 1) Interface to existing **Oracle** databases is key to providing a total seamless solution that is fully integrated with existing third-party databases.
- 2) Interface to existing **GEOBASE** system will enhance the ability of site personnel to maintain and integrate data for use by uaDispatch™.